

U.S. Serial No.: 10/798,522
Docket No.: 2156-612A

Examiner: E. Wong
Art Unit: 1753

CLAIM AMENDMENTS

Claim 1. (Currently amended) A process for electroplating a conductive metal layer onto a the surface of a non-conductive material comprising the steps of:

- a. contacting said non-conductive surface with a liquid carbon black dispersion comprising:
 - (i) first carbon black particles having an oil absorption number of at least about 150 cm³/100 g as a dibutyl phthalate (DBP) absorption number;
 - (ii) second carbon black particles having an oil absorption number of less than at least about 150 cm³/100g as a DBP absorption number;
[[.]]
 - (iii) one or more dispersing agents;
 - (iv) an alkali metal hydroxide; and
 - (v) water;
- b. separating substantially all of the water from the first carbon black particles conventional and the second highly conductive carbon black particles, such that the first carbon black particles conventional and the second highly conductive carbon black particles are deposited on the non-conductive surface in a substantially continuous layer; and thereafter
- c. electroplating a conductive metal layer over the deposited carbon black layer and said non-conductive surface surfaces.

Claim 2. (Currently amended) The method according to claim 1, wherein the carbon black dispersion has a concentration of ~~comprises~~ about 1 to about 5 weight percent of total carbon black particles which includes ~~and~~ about 0.1 to about 2 weight percent of the carbon black particles having an oil absorption number of at least about 150 cm³/100g as a DBP absorption number.

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Claim 3. (Original) The method according to claim 1, wherein said dispersing agent is selected from the group consisting of phosphate esters, alkaline sulfonates, organic sulfonates, ethoxylated alcohols and ethoxylated polymers based on maleic or stearic acid.

Claim 4. (Currently amended) The method according to claim 1, wherein the pH of the carbon black dispersion is about 10-11.

Claim 5. (Currently amended) A process for electroplating a conductive metal layer onto a the surface of a non-conductive material comprising the steps of:

- a. contacting said non-conductive surface with a liquid carbon black dispersion comprising:
 - (i) first carbon black particles selected from the group consisting of carbon black particles having a surface area of at least about 150 m²/g and carbon black particles having a volatiles content of less than 5% by weight;
 - (ii) second carbon black particles, wherein said second carbon black particles have selected from the group consisting of carbon black particles having a surface area of less than at least about 150 m²/g or and carbon black particles having a volatiles volitiles content of more less than 5% by weight; [.]
 - (iii) one or more dispersing agents;
 - (iv) an alkali metal hydroxide; and
 - (v) water;
- b. separating substantially all of the water from the first carbon black particles conventional and the second highly conductive carbon black particles, such that the first carbon black particles conventional and the second highly conductive carbon black particles are deposited on the non-conductive surface in a substantially continuous layer; and thereafter

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- c. electroplating a conductive metal layer over the deposited carbon black layer and said non-conductive surface surfaces.

Claim 6. (Currently amended) A method according to claim 5, wherein the carbon black dispersion has a concentration of ~~comprises~~ about 1 to 5 weight percent total carbon black particles which includes ~~and~~ about 0.1 to 2 weight percent of the carbon black particles having a surface area of at least about 150 m²/g or carbon black particles having a volatiles ~~volatiles~~ content of less than 5% by weight.

Claim 7. (Currently amended) A composition useful in electroplating a conductive metal layer onto ~~a~~ the surface of a non-conductive material, said composition comprising:

- a. first carbon black particles selected from the group consisting of carbon black particles having an oil absorption number of at least about 150 cm³/100 g, carbon black particles having a surface area of at least about 150 m²/g, and carbon black particles having a volatiles content of less than 5% by weight;
- b. second carbon black particles, where said second carbon black particles do not have selected from the group consisting of carbon black articles having an oil absorption number of at least about 150 cm³/100 g, carbon black particles having a surface area of at least about 150 m²/g, or and carbon black particles having a volatiles ~~volatiles~~ content of less than 5% by weight;
- c. one or more dispersing agents;
- d. an alkali metal hydroxide; and
- e. water.

Claim 8. (Currently amended) A composition according to claim 7 wherein the ~~composition comprises~~ first carbon black particles are carbon black particles having an oil absorption number of at least about 150 cm³/100g.

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Claim 9. (Currently amended) A composition according to claim 7, wherein the composition has a concentration of ~~comprises~~ about 1 to 5 weight percent total carbon black particles which includes ~~and~~ about 0.1 to 2 weight percent of the carbon black particles having a surface area of at least about 150 m²/g.

Claim 10. (Currently amended) A composition according to claim 8 wherein the composition has a concentration of ~~comprises~~ about 1 to 5 weight percent total carbon black particles which includes ~~and~~ about 0.1 to 2 weight percent of the carbon black particles having an oil absorption number of at least about 150 cm³/100g.

Claim 11. (Currently amended) A composition according to claim 7 wherein the composition has a concentration of ~~comprises~~ about 1 to 5 weight percent carbon black particles which includes ~~and~~ about 0.1 to 2 weight percent of the carbon black particles having a volatiles ~~volatiles~~ content of less than 5% by weight.

Claim 12. (New) A process for electroplating a conductive metal layer onto a surface of a non-conductive material comprising the steps of:

- a. contacting said non-conductive surface with a liquid carbon black dispersion consisting essentially of:
 - (i) first carbon black particles selected from the group consisting of carbon black particles having an oil absorption number of at least about 150 cm³/100 g, carbon black particles having a surface area of at least about 150 m²/g, and carbon black particles having a volatiles content of less than 5% by weight;
 - (ii) second carbon black particles, where said second carbon black particles do not have an oil absorption number of at least about 150 cm³/100 g, a surface area of at least about 150 m²/g, or a volatiles content of less than 5% by weight;
 - (iii) one or more dispersing agents;
 - (iv) an alkali metal hydroxide; and

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- (v) water;
- b. separating substantially all of the water from the first carbon black particles and the second carbon black particles, such that the first carbon black particles and the second carbon black particles are deposited on the non-conductive surface in a substantially continuous layer; and thereafter
- c. electroplating a conductive metal layer over the deposited carbon black layer and said non-conductive surface.

Claim 13. (New) The method according to claim 12, wherein said dispersing agent is selected from the group consisting of phosphate esters, alkaline sulfonates, organic sulfonates, ethoxylated alcohols and ethoxylated polymers based on maleic or stearic acid.

Claim 14. (New) The method according to claim 12, wherein the pH of the carbon black dispersion is about 10-11.

Claim 15. (New) A method according to claim 12, wherein the carbon black dispersion has a concentration of about 1 to 5 weight percent total carbon black particles which includes about 0.1 to 2 weight percent of the carbon black particles having a surface area of at least about 150 m²/g.

Claim 16. (New) A method according to claim 12, wherein the carbon black dispersion has a concentration of about 1 to 5 weight percent total carbon black particles which includes about 0.1 to 2 weight percent of the carbon black particles having an oil absorption number of at least about 150 cm³/100g.

Claim 17. (New) A method according to claim 12, wherein the carbon black dispersion has a concentration of about 1 to 5 weight percent carbon black particles which includes about 0.1 to 2 weight percent of the carbon black particles having a volatiles content of less than 5% by weight.

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